ANT/OFF/04

II

FFE

ANTARCTICA

0034

ENDERBY LAND

1977

BMR.

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4203 →

Wilkinson Pks
Young Nt ks
Mt Elkins
Mt Codrington
McDonald Ridge
Johnston Pk

McIntyre Is.
Hydrogr
Mt Elkins
Wilkinson Pks
Newman Nth

5½ km sw Johnston Pk
5½ km w of McDonald Ridge

Mt Marr
Douglas Pk
Mt Oldfield
Mt Gidding
Mt Alekseyev
Pythagoras Pk
Mt Dungey
Mt Miller
Pythagoras Pk
E of Fyfe Hills
Mt McGhee
Mt Renouard
Sth of Mt Renouard
Kiwi Nth
Fyfe Hills

Mt Bergi
Mt Maslen
Mt Currie
Mt Merrick
Mt Hardy
Sea Nth
Frame Pk
Solitary Nth
Gwynn Pass

Mt King 15/1/77

Time 12 28

985 864·24

OAT. -8°C

Time 12.30

510 864·15

Proc Is - Lecke Rge / Run 311-312
(23/11/59) 9077R

SE end of NW outcrop of
the Wilkinson Peaks.

Pl 1.

Time 13·43

510 827 72 OAT = -8°C

Time 13 45

985 827·85

Feb
S: 282 - 54 = 228
D. 45 NLU

---

1 Grey massive gut - pr - 7 - f spreis
(light grey ~ colour)

* SPEC 4203

- Heut comm longer of
conformable philg - 2pr - play
spreis

* SPEC 4204

Lings contains lenses of hyp.

Varies in the light grey
spreis: normally fine - gut -
locally up to 2 cm coarse

Lings ~ 6 cm centres of shadow
but - centre?

* SPEC 4205

Surface of this "flaser" is etched
reeb

cut - many xenoliths
- cut through & veined by
network of granite dykes
- some apparently conformably
to country rock foliation
- but also networks of
crosscutting veins. The
granite has been foliated
& contains many garnet
& fsp. Specimen collected
by D Ellis

Mesoscopic foliation has
affected both the country
rock & granite, but
overall is
texturally preserved

Bright green lichen collected

pt 2. also ~~After~~ Pks/1/30 (13/1/75)

Time 1500
QTS 804 16

OAT = -3

Time 1503
SIC 80397

Fol.

1. ~~V~~ Volcanic S. 176 - 54 = 122
dark grey D 24 SW
px-plag granulite ± pockets
of qtz, light brown qtz-q-f
grain & leucocratic hyp-q-f
grain. Some leucocratic
layers boudinaged along
foln plane. Biotite present
in some of the rocks.
~~It~~ appears to be crosscutting
mafic dykes
* size 4206
- scree delineates dyke

pt 3 (also on photo Aker Pts & Cape Borley / 1 / 3026)

Young Ntks.

1.

Time 16.11

785 789 70

GMT: -12

Time 16 14

510 789 54

For

S 273 - 54 = 219

D 66 5E

Med-grad

massive light brown.

b-hyp-q-f grains

(leucocratic)

Plant in each hyp granite

= consistent with foliation, but

does not form

gn

gn ⟹ granite

gn

* Country rock spec 4207

Schistose biot-px layers

* SPEC 4208.

Layer about 4 m wide of qmt-q-f gneiss. Also px-plag granulite layers.

pt 4 (also on Ake: Pks/1/27 13/1/75)

1.

Time: 17 09
985 = 796·30 OAT = -10°C

Time: 17 11
510 : 796·05

Minimum width required between (one) pair of opposed

* spec 4209

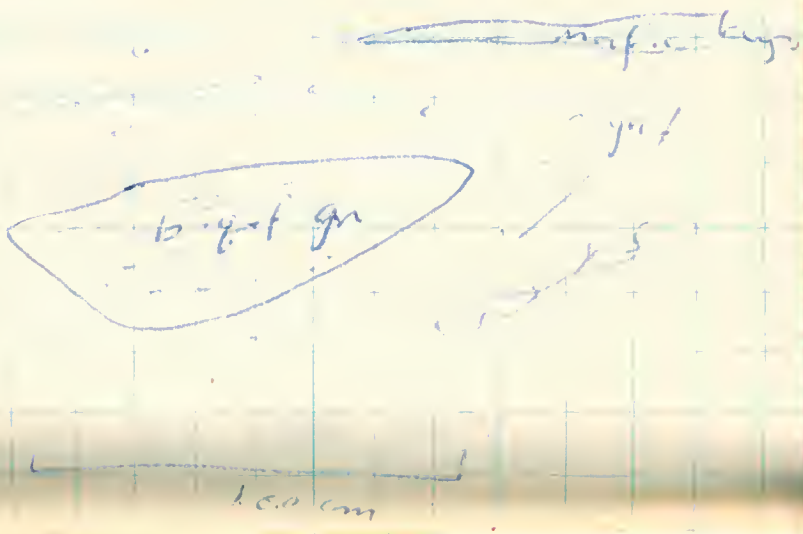
- 247 - 54 = 193

D 2c 10

Play L = 24 → 3c 5 - 54 = 251

(minimum)

4' top of hill. Px-play layer consists of five grid bar - of green outlined by Metalized grid of green layer



Some patches of coarser
g-f within the qtz grains

This layer would appear to
be conformable to the
rest of the layering in
the outcrop.

* SPEC 4210 - contains
intrusive material & b-g-f gneiss

Beneath this layer then
layer ~ 30cm wide
of b-actin-q-f schistose
gneiss

* SPEC 4211

Fine qtd b-chl-q-f schistose gneiss
← Epidote on slickensides

Base of hill 1-2 m wide
layer ghlog - hornblende-syenite

* ~~SPEC 4214~~

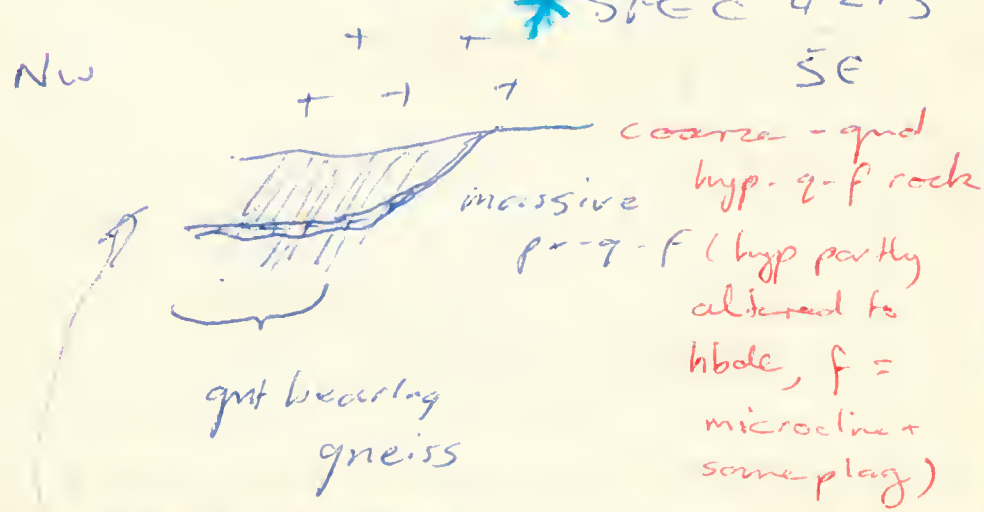
4211B

Aker P & Cape Bonavista/1/3026
Mt Elkins

2. * SPCC 4212 – grey Mcosme px-q-f (/ene) gneiss
Med-grd px-q-f gneiss
– contains some lenses (xeno l. fls) of mafic gneiss.

Also layered garnet & gnt-px-q-f gneiss.

Both these masses cut by hyp bearing peg.



around the corner (so to speak)
light green pyrite
- ran out of time (10 mins
for outcrop - strength)
- Dave found sappl. bearing
rock in scree - is layer of
phlogopite nearby - pos. from
this.

Mt King

Time 19.55
985 864·74 OAT = -8°C

Time 19 58
510 864·50

Mt King 18/1/77

Time 12.20
985 861:24

Time 12.21
510 861.03

OAT = −7°C

Mt Cod/Proc / 13/2272
Mt Codrington

1. garnet q-f gneiss. Leucocratic with garnets to 2 cm across and rarely feld augen to 5 cm across. In places garnet wholly replaced by biotite

Foh

* SPEC 4214 (lenses of qnt-biot · blue qtz) S: 210 − 53 = ~~205~~ 157
D 27 W

Med-grnd qnt-q-mesopardhite rock (qnt highly altered to chlorite)
Also layers of grey biot qnt-q-f gneiss. Also layers of hyp-qnt-q-f gneiss

Clow parting S: 293 − 53 = 240
D Vert

* SPEC 4215 mottled grey & black med grad

(grit). biot - hyp - q - f gneiss

Med-grad feld - opx - cord - qutz gneiss

(feld = ant.p + meso perth)

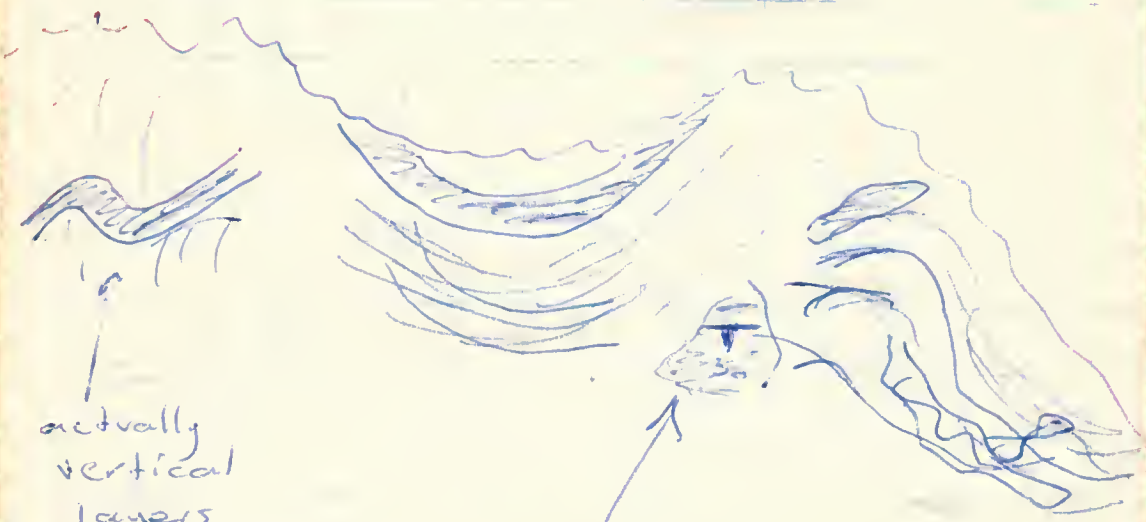
Conformable layers of coarse grad b-hy-q-f ~~feldspar~~ granite — veins diverging from layers cut feld

* SPEC 4216 Med-grad metamorph 2 pthy retr q-plag rock (plag ant.perthitic 2 pthy altered to seric, epid, clinozoi + chlorite)

Same layer granitic veins cut these above layers & their assoc veins

Minor occurance of reddish-orange lichen

Layer 5
S: 200 − 53 = 147
D: 16E



actually vertical layers (topo makes it look like folds)

dark layer

* SPEC 4217

2. Med-grd / Fol
S: 250 − 53 = 197
D: 50E

plag-px (black granulite)

Fine-grd brown hbde-plag-px granulite

Underlying mafic bed —
qtz-bio-(px-?)-q-f layered

gneiss Q-feld-gnt (fine-grid-gn.)
layers and lenses to ~1 cm
thick.

Near first observ - the pr-gnt.
-q-f rock contains a greenish
translucent mineral - ~~feldspar~~ quartz?
Sloraton collected a sample
with this mineral in it.

Black "cabbage like" lichen

Mt Cod & Proc Is / 10/2573

MacDonald Ridge

Ridge - dark brown - mainly
scree - strike ridge.

Time : 1950
510 : 865.35

OAT = -2°C

Time : 1951
985 865.64

Layered
px-plag gran,
gnt-q-f gneiss,
2px + plag
gneiss
(containing
px rich pods
(up to ~10 cm long)

Fol
S: 251 - 53 = 198
D 87 NW

Fol
S: 257 - 53 = 204
D 74 SE

* SPEC 4218.

Md grd brown hbde - plag - px granulite

Wlso layers about 5 m across of px ; grt · q - f gneiss

* SPEC 4219

Grt - feld - quartzose gneiss layer

* SPEC 4220.

Bright yellow - green lichen

Layer of q - f gneiss

* SPEC 4221

Minor biotite in some of rocks.

Mafic dyke at southern end sampled by D. Ellis

Johnston Peak

Time 20 33
985 905.18 OAT = 0°C

Time 20.35
310 904.80

Biot - q - f.
grain - Mod grid - light brown outcrop.
- elong of q + biot defin foln

Fol
S 228 − 52 = 176
D 851

* SPEC 4222

Also biot px-plag even-med-grnd granulite

* SPEC 4223

Foh fine-med grd biot. hornblende? -q-f (leuc) gneiss

* SPEC 4224.

Cont q-f gneiss in scree.

Outcrop 5½ km SW of Johnston Pk

Foh.

Brown scree covered mounds

5. ~~255~~ - 52
247 = 195

P. 86 SE

Phy L: 80 ⇒ 147 - 52
= 095

(biot

- Biot-q-f platy gneiss - px retrograde

* SPEC 4225

Scree (in situ) of mafic dyke - D. Ellis collect.

Outcrop 5 km West McDonald Ridge

Fol

S 355 - 52 = 303

D 20 SW

Phy Lin 19 → 272 - 52

= 220

B-q-f gneiss

Close Pty

S 325 - 52 = 273

D ~ vert

Px-play granulite &

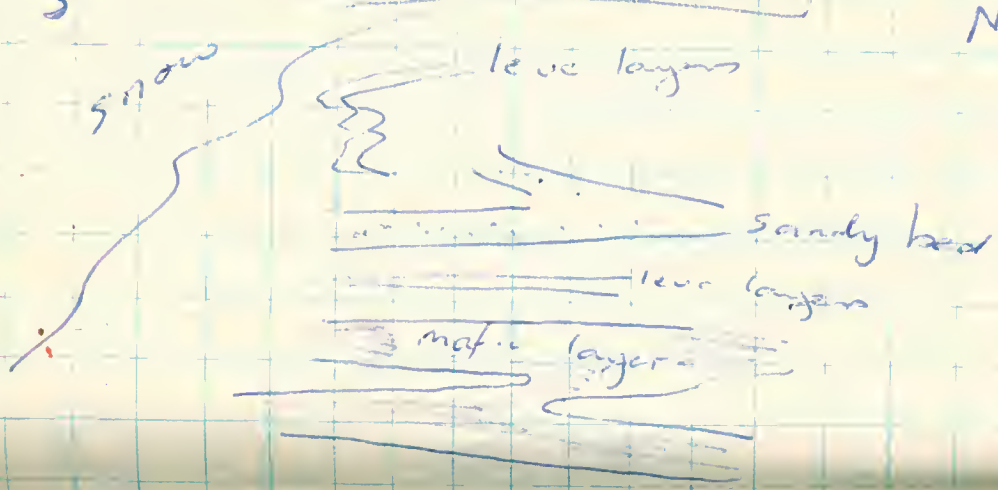
gnt-q-f gneiss - locally

contains biot

* SRC 4226

EAST FACE

S N



Intense recumbent folding on cliff face.

Mt Cad & Proc Is / 9 / 2944

1. Mt Mawr

Brown rubbly scree.

- exposure on SW end.

Time 21.43
985 860.66

OAT = -6°C

Tme 21.44
510 860.37

Warm
black
layer
of (gmt)
biot amphib
(med-grained
~10 m wide

Fol
S 242 – 53 = 189
D 70 SE
close Pfg

S 333 – 53 = 280
D Vert

Phg Ln 58 → 127 – 53
SPEC 4227 (biot clongn) =074
(— measured on fol plane above)

Also biot-horn-q-f gneiss

* SPEC 4228

Whole of Mt Mans family
massive ~~dark~~ and dark.

Nye Mts / Tie Run C / 2383

Douglas Peak.

1. Time : 22.14
510 : 867.95

OMT = -6°

Time 22.15
985 868.34

Foh
5: 225 - 53 = 172
D. 60 W

Uncertain whether represent.

Blocky outcrops - not sure whether in situ. Many blocks consist of medium grained granite-feldspar containing lenses of melanocratic grains (xenoliths) - intrusive. Other rock - mafic.

* SPEC 4229 - granitic rock + intruded mafic rock

* 4230 - diop-phlog rock

* 4231 - bright green diop rich agpaitic

Mt King

Time 23.16
930 : 858.68 OAT = -12 C

Time 23 19
985 858.84

cp. Francisco 9.

2+1 San Douglas Pk +1+1
francais (worst face)

Mt King 19/1/77

Time 11.50
510 858.65 OAT = -8°C

Time 11.53
985 858.89

Mt Russar Larsen / 14/0836
Mt Oldfield

Time 12.56 OAT = +8°C
985 981.60

Time 12.58
510 981.40

1 Med-grained hyp-play agran
- contain S. 322-52 = 270
pyrite D 505
lenses. Phyl-43 ⇒ 260-52
Also (per strip) = 208
layer containing more feld (lighter
in colour)
Branched lichen

Interlayered with lt. pt brown
q-f grains.

Pale brown massive fine to
med. grnd hyp-q-f grains

* SPEC 4232

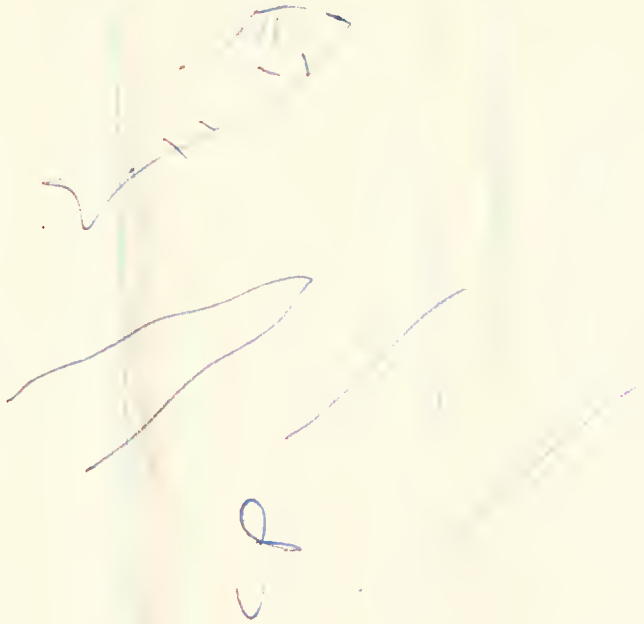
Some polished & stained
surfaces

(cP for Pale)

Trend of strict: = 352 - 52 = 300

Leuc hyp-plag granulite
intruded by slightly coarser
grnd hyp-q-f grains

Black cabbage-like lichen.
Also green moss (like growth
(spec collected)
Also bright green lichen.



Layer few metres thick,
pink in colour of grey grains
- medium grained but variable
in grain size across this
layer a layering of its own.

* SPEC 4233

Rubbly pod ~ 3m x 1m
of light (yellowy) green ?
veined by bladed coarse
grained light green mineral

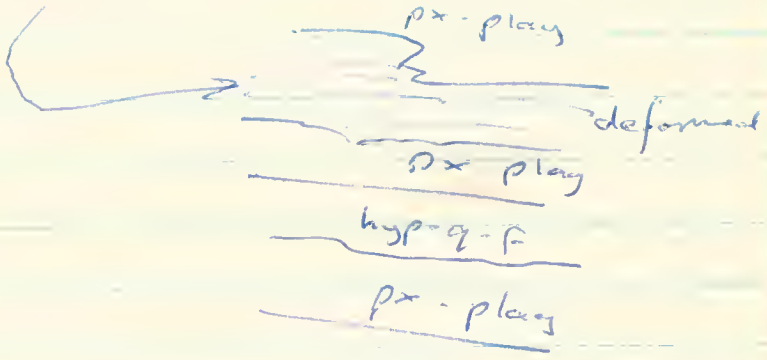
* SPEC - 4234

Folk
S: 311 - 52 = 259
P: 475
Phyllite 37 → 262 - 52
(min along) = 210

Px - play layer about 8m across
- contains some thin pebble
lenses

About 3m wide layer (less along strike) of dark purple (black on fresh surface) ~~epidiorite~~ brittly deformed rock

* SPEC 4235



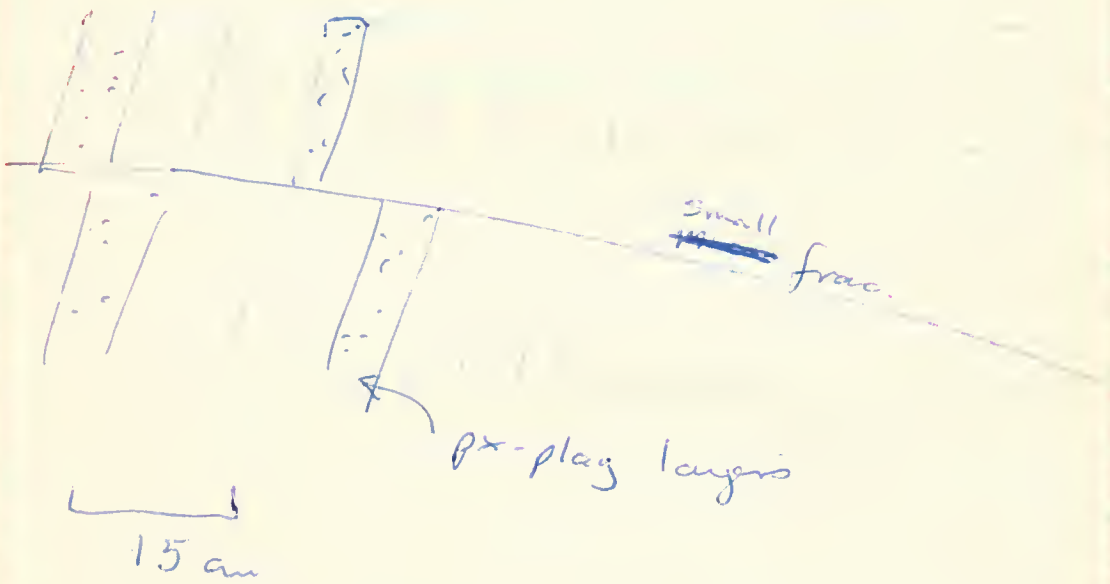
Medium grained hyp-gnt (pale pinks) -q-f gneiss

* SPEC 4236

About 30 m wide - contains minor no. of "xenoliths" - thin layers up to 2m long x ~ 7cm wide - of

px - plag granulite.

~~Many~~ Small fractures - small displacement



Then into light grey-brown coloured px-plag granulite (mainly plag) - massive.

Lens? ~ 1 cm wide of magnetite-quartz - appears to be squeezed out along strike.

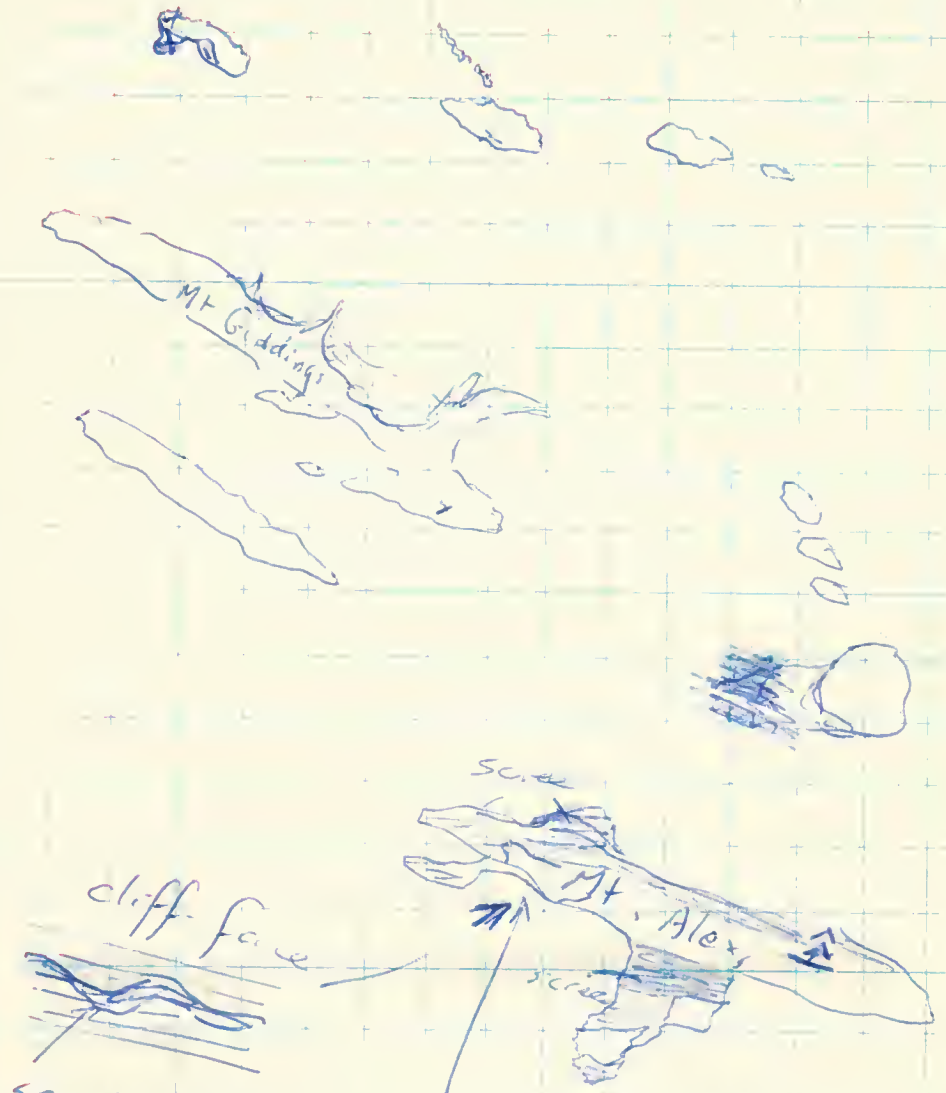
Other side (5th side) of mag - q rock - light grey

meta "anorthosite" - med-coarse grained - massive - at least 10 m wide - about 10% mafic (px) material

Small fractures - bleached along fracture

* SPEC 4237

Lost my steel rule!



Simpson Pk / 15 / 0681

Mt Giddings

1. Marble light brown in exposure.

Layering

Grey med. grained Qz-plag granulite - In parts quartz bearing.

S: 314 - 52 = 262
D 10 N

Fault plane

Abount ½ way up cliff face - disarticulated & loose fragments (cobble size) of country rock - migmatite - blocks pseudotachylyte.

S: 300 - 52 = 248
D 60 N

Above dip still fairly flat - above is measurement of one fault plane - there appeared much shallower to north.

Ref. Ax.
S: 330 - 52 = 278

Main thrust - Platy - granulated gneiss - mixture of pseudotachylyte

D: 46 N

17

* SPEC 4238

Platy thrust zone ~ 3 m wide.
Pseudotachylite veining over
total zone ~ 10 m.

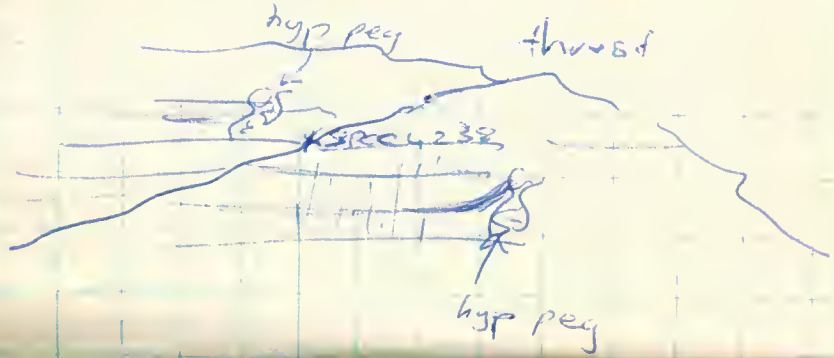
Below fault
- p-q-f gneiss.

Fol
S: 340 - 52 = 288
D. 06 N

Ply L=: 06 → 083 - 52
Conv layg = 031

Close ptg
S. 295 — 52 = 243
D. vert

NB Above fault - hyp bearing peg cuts layers. - also occurs below



McLeod Wtks /3/0928

6 km NE of McFaddyen

3

Appear to be overturned folds
- axial plane horizontal?

Time: 17:18
510: 870·42 OAT: -2 °C

Time 17.19
985 870 85

Mylonitised plane
S: 250 — 52 = 198
D: 61 NW
Plge L: 61 → 333-52
= 281

Brown mylonized green. Med. grid (min std fg) crushed feldspars in dark fine-grid matrix

SPEC 4239

Met. coarse hypersthene pyroxenite
- layers several m across
- black.

Layer of grey green - garnet -
fold - px - light green min?

* SPEC 4240

Foln
S 275-52 = 223
D 62 NW

Met. quart. granular
gnt ('pale pink') - px - g - f granulite

* SPEC 4241

Minor malachite stain.
Boulder (scree) of amphibolite.

Stem E of Middleton

4. Massive brown outcrop

Foh.

Light coloured (light whitish grey) — S. 345-52=293
B. 35N

p.v.q.f grains.
- trails of px - in places spots of green alt: - actin?

* SPEC 4242

Foh

S: 210-52=148

Layers below
- px-play grainsize D. 40N
(this is fairly big block but may be slightly disorient
- not completely in situ? ⇒ this fab: difference)

Nice venting slope.

Simpson Pk/15/0681

Mt Aleksegyev

2. Time: 19.44
510 = 873.03

OAT = -2°C

Time: 19.45
985: 873.38

Scoured blue ice slopes - no crampons - not enough time - however the major unit noticed from the air is definitely cross cutting (lacs & to layers - an cliff face).

The scree consists of px-c-f grain & px-grd-q-f grains.

M/t King

Time 22.43
510 853.64

Time 22.45
985 854.00

M+ King 24/1/77

Time 16.01
510 867.34 OAT = −5°C

Time 16.03
985 867.90

McL Nth / Tie Run D/0578

1. Pythagoras Pk.

Time 17.12
985 918.71 OAT = 0°C
Time 17 13
510 918.37

Massive
brown
med-grained
(equigran)
2½px – plag
granulite

Jointing
S: 231 – 52 = 179
D: vert

Fols
S: 260 – 52 = 208
D: moderate

– contains stringers of blue quartz and hypersthene.

* SPEC 4243

Fols.
S: 264 – 52 = 212
D: 75 NW

Quartz-feldspar grain layers // foliation in the px-plag granulite & locally crosscut (intrusive) the fols.

* SPEC 4244

D. Ellis found stringers of qtz in the mafic granulite with recrystallized hyp

⇒ since the intrusive grains

does not show hyp development in contact with the mafic gneiss, the folds re return producing the folds & the recrn around qtz stringers is earlier than the intrusive q-f gneiss & its associated foliation (which is // to the layering.

Branched lichen & bright yellow / green lichen

Fault - trend ~ 304° - 52 = 252
~ 15mm wide sheared dark mylonite

* SPEC 4265

Grey uneven grained q-f (? actin) gneiss

* SPEC 4246A

Magnetic bearing Peg dyke cuts country rock.

~20 cm wide

- trend 360 − 52 = 308

Easy:
S: 291 − 52 = 239
D: 775E

2. Manie

garnet-q-f gneiss layer

- quartz-blue.

* SPEC 4246B

Contains px-plag granulite layers.

Also layers of gnt q-f gneiss containing dark mineral

* SPEC 4247

Parts of the gnt-q-f layer ~~are~~ contain > 50% white feldspar.

Orange lichen

Mt Dungey

3 Time : 19.13
510 : 959.70

OAT = +3 °C

Time 19.12
985 960.16

Marine foliated brown (grey on fresh surface) med-grained px-q-f gneiss.

Foh (approx)
S: 260 - 52 = 208
D: 225E

Foliation approx — large slabs cleaved from cliff face.

Jointing S 240 - 52 = 188
D 80 NW

The marine px-q-f gneiss is fairly extensive at base of cliff.

Overlain by thinner layers of rocks of various compositions (probably grit grains, px-plag granules etc ~~—~~ in scree at base of cliff).

Layered sequence

S: 293 - 52 = 241
D: 175E

- Med-coarse q-f grains (blue purple quartz) layers in part contain disrupted mafic layers (pxrites)

Pxrite (phlog-plag) layer

* SPEC 4248

Phlog-px-q-f grains

* SPEC 4249

As above ± light greenish blue layers (sapph - doubt it)

* SPEC 4250

Mt Cod /4/0994

Mt Miller

1. Time 20.06

510 934-69 OAT

= +2°C

Time 20.08

985 935.20

Laying

Well layered S 257 - 52 = 205

gnt-q-f qm, D 49 SE

gnt px-q-f qm,

px-plag granulite & pyroxenite

* SPEC 4251 gnt-hyp-q-f qm.

* SPEC 4252 px-rute -phlog + plag beaming

Branched lichen

McL Nth / Tic Run D/0578

Pythagoras Pk.

24

Appears to be mod dip to south. Difficult to measure layering trend.

D. Ellis sampled basic dykes.

At this locality mainly grey and white mottled qut-q-f gneiss.

Enriched out phog-bright green px bearing pyroxenite

* SPEC 4253.

Mt King

Time 21 53

510 867.45 OAT

= -8°C

Time 21.55

985 867 87

25/1/77

Simpson Pk 17/1272

12. Thin black "pseudotachylyte veins commonly ≤ 2cm wide cutting Veins S: 186 – 51 = 135
doubly folded. D vert
leuc & mafic gneiss.

30 cm.

Double folding

SPEC 4254 < leuc & mafic

layers

Foliation appears to be developed in the leuc layer (px-q-f) // to axial plane of folds? folding In places the leuc gneiss intrudes (disrupts) the mafic layer (similar to Rippon Depot)

The mafic layer commonly <10cm wide.

* SPEC 4255 - fol px-q-f gneiss ("earlier" fol // to layering).

Some sheared peg veins

General layering S: 335-51=284 D. vert

More mafic layer q-px-f gneiss

* SPEC 4256

Legend
S: 172 - 51 = 121
D. Vert

Fork eyewear
most cases
to follow legend

* SPEC 4257 - lens legend (2.5)
- maroon light brown/orange in
colour.

Bright green/colour & branched
lichen

Mt King 26/1/77

(pic x beaut for a change)

Time 10.57

985 867.19

OAT. -10°C

Time 10.38

510 866.88

Mt Cod & Proc Is / 12 / 2340

Mt Mc Ghee

1. Time: 11 24

985: 843.18

OAT = -4°C

Time: 11 25

510: 842.99

~~None~~ brown scree of med. grid qmt. q-f gr., px-plag green, plag-px Pxmte and px-q-f gneiss.

Fol.

Same S: 276-53=223
large blocks D: 70 SE
probably in situ & appears to
be ~~good~~ representative of
fol.
Thin layer (in general
rubble) of metaquartzite ~ 1½ m
* SAC 4258

From rubble (in parts
platy scree) — this Mt
not made up of the
conspicuously layered rock types
— the mineralogical variations
are here but don't appear
to form the conspicuous
layers as seen in other areas

Some (light cream colored
qmt-q-f (green) (felds
dominant)

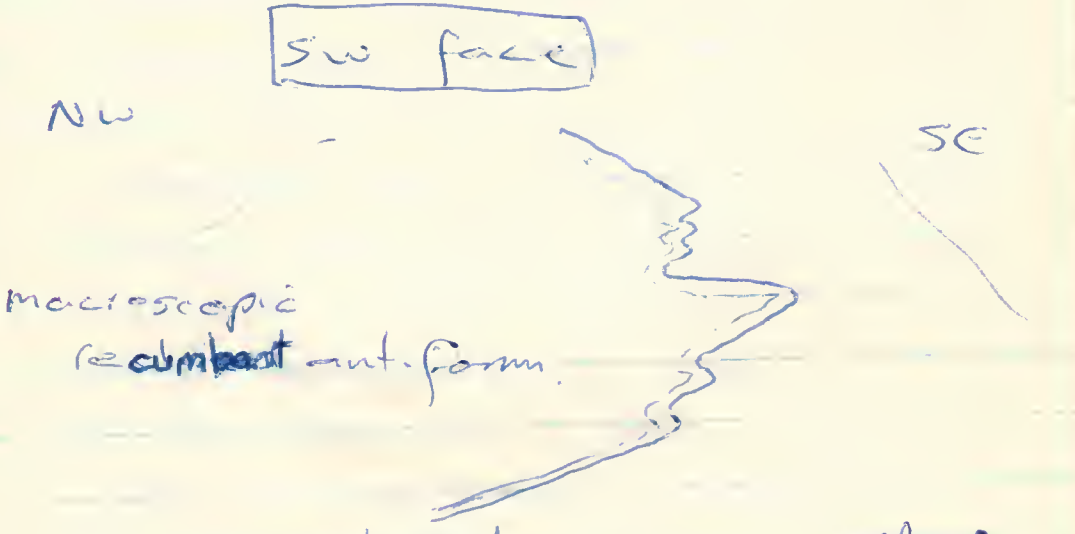
Mc L Ntk / 11 / 2358

Mt Renouard

1. Time: 1216
   510 850.79

OAT = -3°C

Time: 1215
985: 851 10



- axial plane is mod dip to ~NW.

Fol.

S: 245 - 53 = 192

D: 30 W

Phy Ln? : 18 → ~~212~~ 032 - 53
= 339

2. Brown scree — some more massive blocks in situ — of px-q-f gneiss, gnt-q-f gneiss, Mag-quartz, pxnite!

L = measured may be fragment of wiagin = - caused by gntz elong?

3. Further along to NW along cliff face - in side px-q-f gneiss & gnt-q-f gneiss.

Fol

S: 270 - 53 = 217

D: 22 NW

Phy Ln = 02 → 089 - 53
(gntz elong) = 036

4. Outcrop just sth of Alt Renamed.

Fol

Layered S 265 - 53 = 212

px-play gyps. D. vert

gyp-q-f gyps

pinite pods & px-q-f gyps

* SPEC 4259 - px-q-f gp.

Layering dips steeply about vert

Malachite string along fractures

* Pinite gyp-q-f gp SPEC 4260

Conformable gyp vein ~15 cm

cuts - hyp along margin

(~~metabas~~ country rx px-play granulite)

Some pinite pods enclosed in

flag-rich rock.

Some 'S' folds as viewed

looking up cliff face (SSL face)

Mt King

Time 14.10
985 867.07

OAT = -7°C

Time: 14.11
510: 866.67

Mt King

Time 14.50
985 867.10

OAT = -7°C

Time 14.51
510 866.55

Sandercock Nth's

Time: 17 01
985: 745.64

OAT: -12°C

Time 17 03
510: 745.33

Kaui Ntks

- med. grid mafic grain
- biot. pr. plag

N

* SPEC 4261
Grnly conf. small layers of med. grnd granite

Fol
S 268 - 53 = 215
D 45SE

Ply Ln: 41 → 148 - 53
(min e bright) = 095

* SPEC 4262
- layer up to ~ 1 m clean with offshoots of granite

Fol
S 295 - 53 = 242
D. 53S

Ply Ln: 38 → 165 - 53
(min e lay) = 112

Veins:
- Some layers running out med. veins.

Sedachute strain survey

* SEC 4263 granite
- gneiss - foliated and lineated (mafic component)

* SEC 4264 - med-grd mafic gneiss

Piece of rounded screen
b-grt-q-f (leucocratic)

2 Strongly foliated fine to med-grd leuc grnt-b-q-f gneiss. Layers up to ~m wide of coarser white grt-q-f gneiss - appears to be conformable

Foh
S: 282-53 = 229
D: 47 SE
Plg L: 12 → 120 - 53 = 067
(min elong)

with the [illegible] rocks of ~~fine grained~~ fine grained quartz gabbro

* SPEC 4265

The coarser layers appear to have intruded the fine grained country rock. Locally folded on cm to ~15 mm scale?

Cliff face - layers + lenses of light & slightly darker orange coloured grains. In contrast to pt (1) which contained layered mafic grains & granitic grains with a network of granite veins irregularly from the granite grains

Ice feature NE Kimi Nth

Time : 19.39 - crevassed blue ice - domed
750 : 794.30

OAT = -10°C

Time : 19.40
265 : 794.48

5th mtk - Sandercock Nth - Japanese survey pin?

Time 20 16
265 751.05

OAT = -17°C

Time 20.19
750 750.28

Rock type - g.f green containing black mineral (biot?) - no garnet seen. - check with T.S

Mt King

Time : 22.44
510 : 865 75

OAT =
-12 °C

Time : 22 45
985 : 866.00

Mt King 27/1/77

Time 11.55
985 865.02

OAT = -8 °C

Time 11 57
510 864.78

Simpson Pk / 7 / 1272

Fd. Fyfe Hills

13. Massive biot-px-q-f gneiss.

S: 302-51 = 251

D: 68SW

W side ('cliff' face)

* SPEC 4266

Pod? of med.-grnd pgmte (black)

* SPEC 4267
– sheared margins

Metamorphosed crosscutting dol-dyke (2px-plag)

* SPEC 4268 – dyke (px-plag granulite)

Cut by biot-q-f peg below.

Country rock contains of partly mobilized layers of px-q-f
- also later cross cutting q-f veins

Trend of dyke 250° - 51 = 199
-dip steep to SE

Fault plane (pseudotachylite) displaces the ~12 m wide dyke.

Fault
S: 195-51 = 144
D: 80NE

* SPEC 4269 - b-q-f (pink & white) ~~dyke~~ vein (~40 cm wide) - cuts ~~dol~~ meta-dol dyke.

Also layers of grd-px-q-f gneiss.

Simpson Pk/6/1345

1. McIntyre Is

Time: 15 20
985 : 985.72

OAT = +8°C

Time 15.22
510 : 985.32

Fold nose truncated by fault & intruded by peg vein.

S: 277 - 51 = 226
D: 24 NW

Gnt-px-q-f gneiss

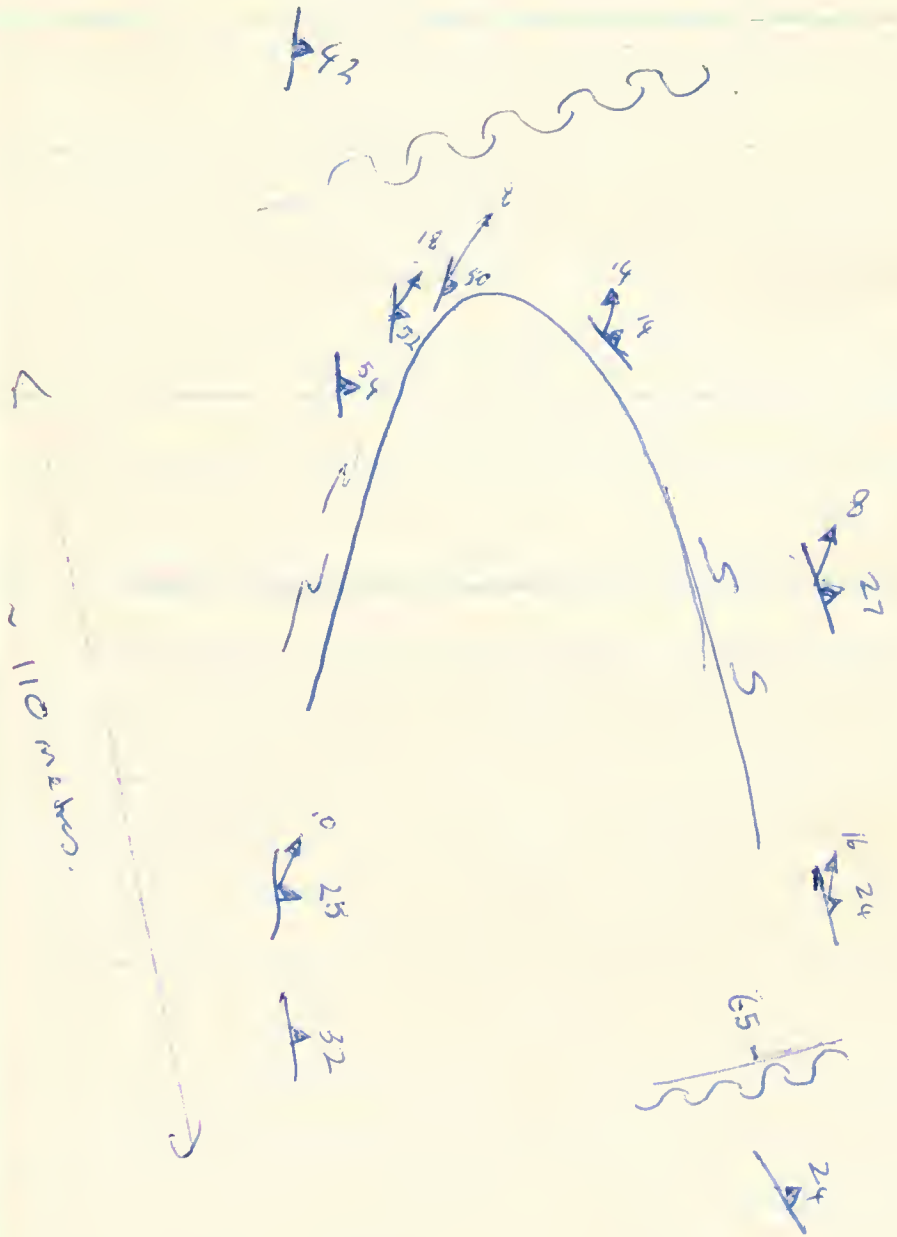
Phy L: 16 ⇒ 325 - 51 = 274
(min clays)

SPEC 4270

Some malachite stng along frac.

Fault
S: 200 - 51 = 149
D: 65 W

About 4 m wide. Mylonized zone - black & pink streaked mylonite


~ 110 meters
plunge of fold
↳15 → 272
N

Fdh

East side of fault - massive brown p+. q-f med-gnd green - cut by thin pegs veins.

S: 275 - 51 = 224
D: 24 NW

Fdh

West side fault - 5th limb of fold.

S 316 - 51 = 265
D: 32 N

Scpph - biot - sill - gnd - q-f green

* SPEC 4271

Fdh
S: 312 - 51 = 261
D: 25 N

Phy Ln: 10 → 325 - 51
(min elong = 274

On 5th limb - 2 folds - flds of the lens (gnd q-f - ~~locally~~ in places sill - biot -

Sc/gr bearing) gneiss mod-linear
- fol = cut by coarse grnd
gnt (light red) - fold modulisate

Peg veins (up to ~10 cm)
cut the fold - trend ~ 205° - 51
= 154

Layers of grey gnt (red) - q f
gneiss.

Locally peg veins contain magnetite

Grey gnt (red)
- q-f gneiss
(towards
nose of fold
- SW side)

Fol
S: 310 - 51 = 259
D: 54 N

Lava gnt (pink)
- biot - q-f gneiss

Fol
S: 310 - 51 = 259
D: 52 N

Fly L: 18 → 327 - 51
= 276

Peg veins trend ~ 205 - 51 = 154

On nose
- sth limb

Fdh
S 312-51 : 261
D: 50N
Plyl: 8 → 325-51
(along) = 27

On nose
- nth limb

Fdh
S: 240-51 = 189
D: 14 NW
Plyl: 14 → 320-51
(min along) = 269

Fdh
S: 295-51 = 244
D: 27 NW
Plyl: 8 → 315-51 = 264
(min along

1 enc b-gnt-g-f
greens
- ½ way along
nth limb

- 5 folds on this limb

Western end of fold nose
- deformed gn. ≈ 2 m wide (1 m of this fine-grained black middle rock - SPEC 4272)

Deformed zone
S: 345-51-294
D: 80 SW

- thin pegs veins cut this deformed zone.

West side of this fault
layered gnt-px-q-f gn., px-plag gneiss, px-q-f gn.

Fold
S: 310-51-259
D: 42 N

Simpson Pk / 5 / 1435

Hydrographer I=

1.

1. Time 17.31
510 989.29

OAT = +5°C

Time : 17.33
985 . 989.74

2 Med. grid
gnt - p - q - f
green

Fol.
S. 340 - 51 = 289
P. 605

Cross cutting b.g.f aplite dyke
(med. grid orange-pink in colour)
~ ½ m wide trending 320 - 51 = 269

* SREC 4273

Grey med. grad
Px-q-f greiss.

Foh
S: 178-51 = 127
D: 455

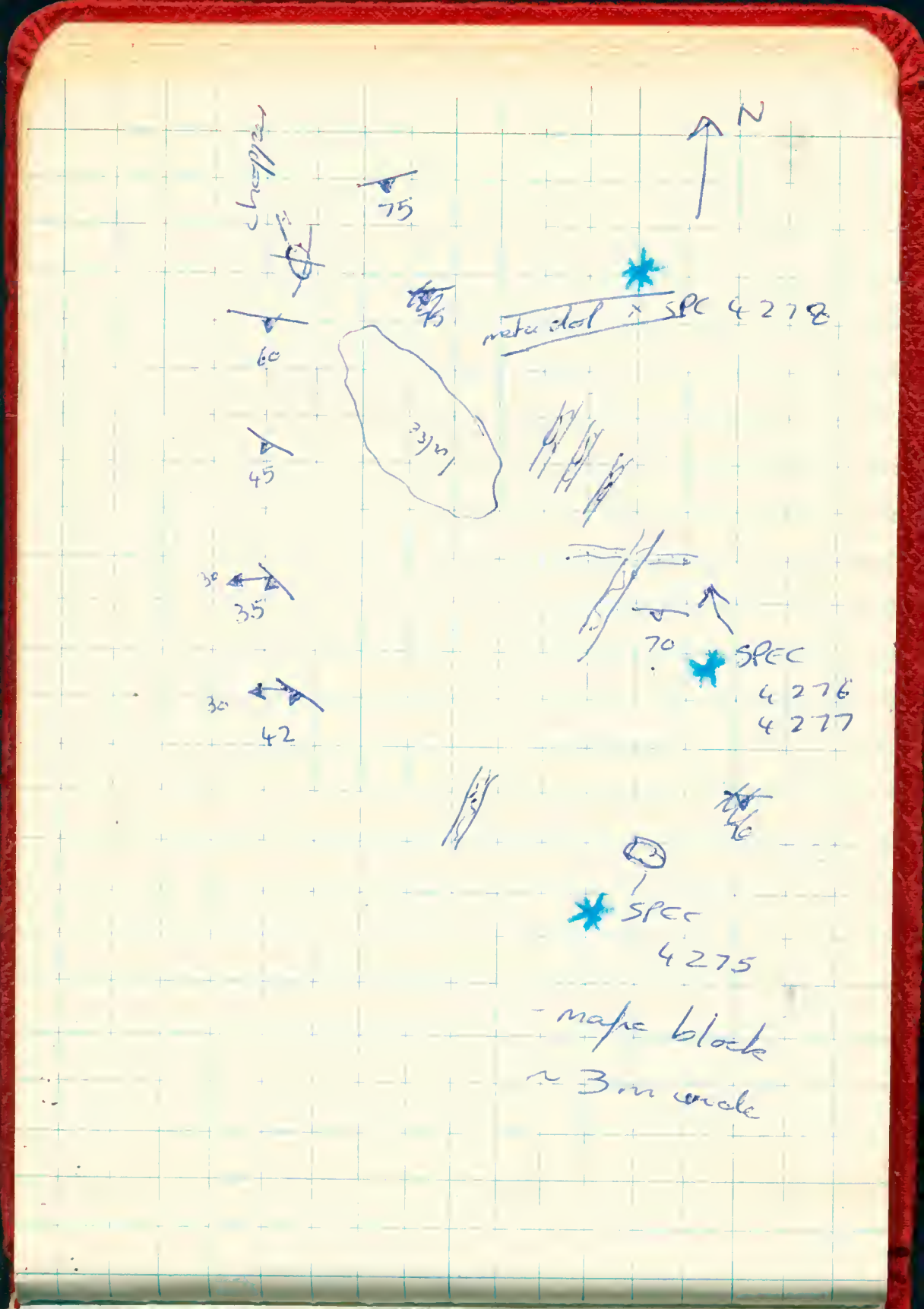
Px-q-f gn

Foh
S: 200-51 = 149
D 35W
Phy L: 30 → 320-51
(min elong) = 269

Px-2-f. gn
in contact
with
leuc
p-q-f gn.

S: 196-51 = 145
D: 425W
Phy L- 30 → 323-51
(min elong) = 272

3. Peg (musc-q-f) dyke trending
26 2 ± 51 = 211, vert dip
$\frac{1}{5}$ m wide
Fine-grid gnt also present
* SPEC 4274


N
75
75
60
45
35
30
42
70
SPEC 4278
SPEC 4276
4277
SPEC 4275
- mafic block
~ 3m wide

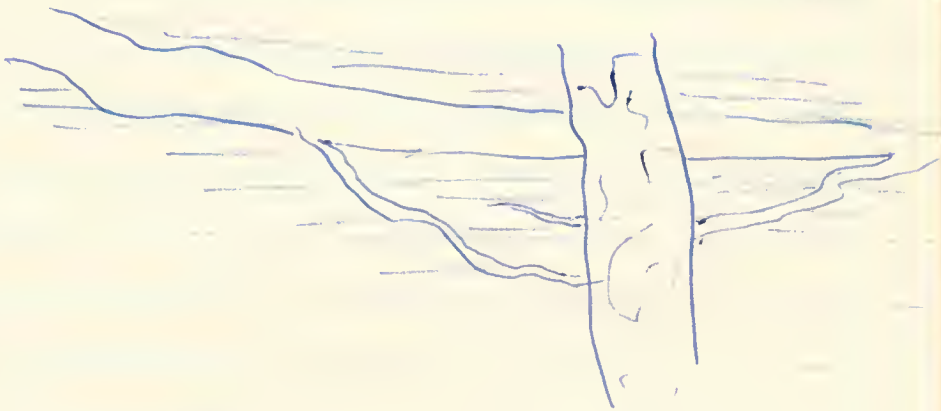
4. Peg dyke trend = 270 - 51 = 219

Spec

Pinky orange aplite ~ 338 - 51 = 287

Peg cuts aplite dyke

Aplit here grossly conformable to foln



Foln

Country Rx

S: 325 - 51 = 274

D. 70 SW

NW

½ m

5.
2 m wide metadol dyke

=254
S: 305-51 Trend of dyke
P: vert

* SPEC 4278 - fine grnd retrogres q-gnt-plag-cpx-gneiss (cpx → hbde ~~plag~~)
Grain at margins of dyke sheared

* SPEC 4276 - spotted gnt-px-q-f gneiss - fairly massive

* SPEC 4277 - px-plag granulite
Area seen consists mainly of spec 4276 type + lens px-q-f gn.

6. Px-q-f gneiss
(same to SPEC 4276 - except no gnt)

Fol.
S: 335-51:284
D. 75 SW

Honeycomb weathering prevalent.

Jennifson PK/4/1506

7 km SW of Hydrographer Fold

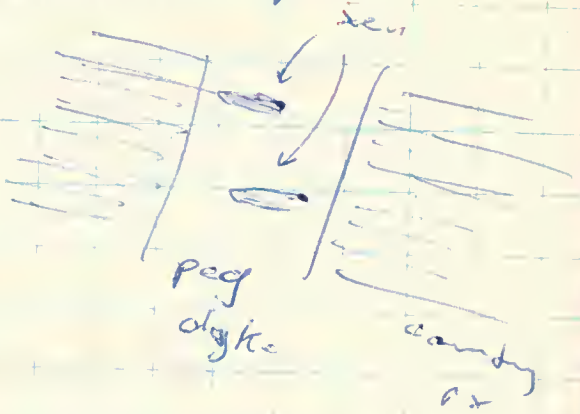
1. Gnt-px-q-f gn. S: 291 - 51 = 240
D. 82 NW

Plag Lin. 82 → 015 - 51
(min elong) = 324

* SPEC 4279, Med-grnd q-gnt-plag-cpx gneiss. Fracture ± green hbde.
→ px pro-grade react: cpx + hbl rad → cpx + gnt + q
Well layered gnt-px-q f gneiss
px mite, gnt-q-f. gneiss.
Pod of gnt-px-gnts
* SPEC 4280 coarse-grnd gnt-cpx granulite.
- some sec alt ± of cpx → hbde + biot.
Magnetite-quartz gneiss - layer ~ 2 m thick

Peg (b. q-f) up to 4 m thick
crosscuts country rx trending
192° - 51 = 141

Peg contains xenoliths of
country rock



baro reading
on flat
pebbly beach.

Time : 19.19
510 : 992.06

OAT = +2°C

Time : 19.20
985 : 992.53

Mt King

Time 21.30
510 863.03

OAT = -7°C

Time 21.29
985 863.20

Mt King 28/1/77

Time 10.33
985 864.31

OAT = -9°C

Time 10.34
510 864.00

Mt Elkins (northern side)
Lens gnd. q-f gneiss. Also b-q-f gneiss - may be relict p.

(general foli
S. 265-52 = 213
D. 74 SE

Fol

~1½ m wide S 267-52 = 215

layer D 75 SE

of felsic - biot - px grains &
px - biot schistose grains

* SPEC 4281

Also massive light grey
px - q - f grains - px alt partly to biot.

* SPEC 4282

(med to coarse grnd - some
felsic to ~15 mm)

Some honeycomb weathering.

~~Has general Mn stain. Lacks~~

Wilkinson Pks

N

Window - in rock

Mt Elkins

Wilkinson Pks (SE outcrop)

- massive homogeneous brown weathering rock. Appears to be cut by leuc veins (mine)

Time : 12.46
985 : 793.67

OAT = -8°C

Time : 12.47
510 : 793.25

Med. grid grey
px - q - f grain
px - plag granular
x gnt - q - f grain
(leuc).
- Intruded by coarse-grid metalised by l-f rock
- minor patches of garnet

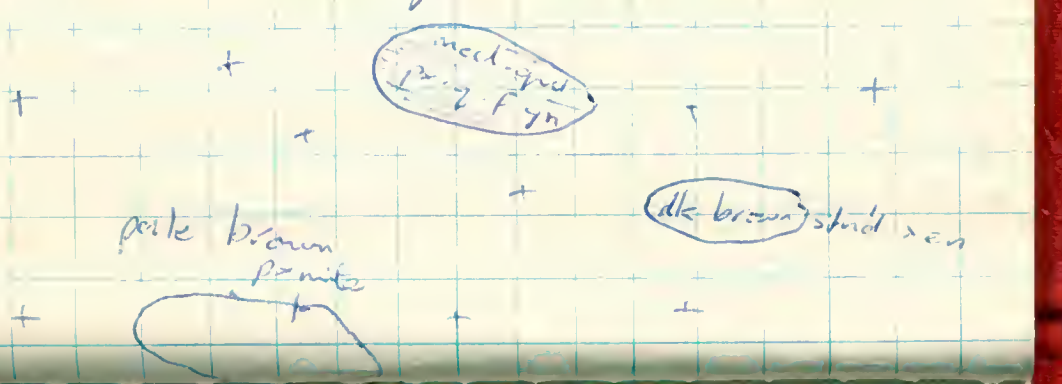
Fdh
S: 270-54:216
D 52 SE

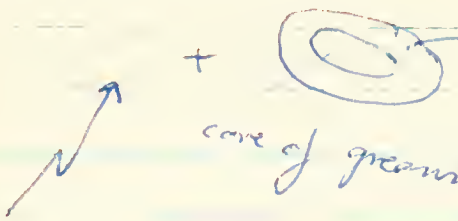
* SPEC 4283 - coarse-grd
b-hyp-g-f granite
(possibly witness — appears
here to be conformable with
folds).

* SPEC 4284 - med to coarse
grnd black px-g-f granite
(also large chunks for JWS to
analyse)

* SPEC 4285 - xenoliths
of med-fine grd px-g-f gn
in a matrix of med-coarse
hyp-g-f granite

In places massive
px granite (hard to see
whether dis foliated though)





matrix
- med to coarse grained
hyp-q-f granite
(quartz bluish)

10 cm

Jointing 318-54
Dip vert =264

Locally grit
is present in the hyp bearing granite

Elongation & dip of the xenoliths
indicate persistence of foliation
to top of hill

S : a 240
D med to steeply E

E [south face of exposure] W

* SPEC 4286 - gnt hyp - g - f granite.
(also spec for JWS)

Xenoliths rounded.

Magnet Bay to S/W SCOTT RANGES
RUN 101 / 9099R 1958
Newman NHKS (NW NNW)

N ↑
B
loc. → 0

1.
Time: 14.02
510: 819.28

OAT = -3°C

Time: 14.03
985: 819.58

Fine - gnd
black ~~mafic~~
~~rock~~ mafic
dyke.
Appears to be fresh

~~Fault~~ Dyke
Contact
S: 160 - 55 = 105
D 86 SW

* SPEC 4287

· Thin shearing at margin

Dyke ~ 10 m wide - minor malachite staining along fractures.

Country rx - med-grd px-plag granulite & hyp-?-f gneiss.

Fol
S: 253-55 = 198
D: 85 W

* 50CC 4288 - grey px-?-f gn.

* 50CC 4289 - bad granite
- network of veins intruding the country rock on any rock face - xenoliths angular

grit present in places

½ m layer of biot-q ~~hcg~~ haem!
* 50CC 4290

Yellow limonite staining on this layer

Newman Ntks (SW ntk)

2. Tail of ntk.

Time : 14.55
510 : 799 56

OAT = -7°C

Time : 14.54
985 : 799.80

Marine layered brown weathered rocks

Layers of lava (which Fols
- grey) S 240 - 55 - 185
cpt-y f grain (green mineral D: vert
runs some cpt spots)
SEC 42491

inner layer of granite - patchy with network of veins cutting felsic

In places gnt appears to be running px

* SPEC 4292A
* B
* C

(Spec 4292A may show veins hyp → gnt best.)

Pod? - layer? - of coarse grained granite

* SPEC 4293

The gnt grains contain numerous slivers of mafic grains (as though intrusive itself)

also Proc. Is - L.R/311-12/7090 (1959)
pt 1

3. Newman Ntk (NE)

N
↑
OE-loc

Massive brown & grey layered rocks (vert dipping).

Top of ntk
Time : 15.44
985 . 792.93

OAT = -10°C

Time : 15.45
510 : 792.70

Foh
S: 300 - 55 = 245
D 785

Layers of greyish white-grit-?-f green (grit aggregates to ~3cm across contain quartz - similar to previous spot) - may be fine-grid magnetite present as well

spec - well-bedded (eg. 4 E 11 15

Brown layers of fine to med. grad
2-f grain
* SPEC 42 94
- folded green mineral because
of alt to chlorite ? sericite ?

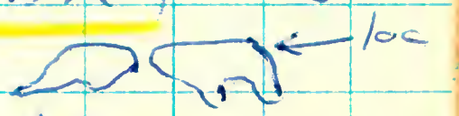
About 25 ft ? cored on top of this
pt.

Layer appears to be about
30 m wide (that sort of magnitude

N

also Proc Is - Leckie R/311-12/7099 (1959) p+l

4. Newman Nth (SE nth)



Massive brown coloured outcrop.
- Loaded at small outcrop.

Time : 16.34
Sio : 784.76

Time : 16.31
985 : 785.10

OAT =
-10°C

Possible altered mafic dyke

* SPEC 4295

Adjacent to it med. grid spotted biot - hbld - q - f gneiss

* SPEC 4296

Main rock type brown pink mx p-q-f gneiss * SPEC 4297

[illegible]

& folded [illegible] & the "basic dyke?" are cut by thin pegmatite veins.

Moderate slope on some fractures of the? dyke rock

Small ventifacts slope — 1 for the use of - yukla.

Magnet Bay clear of ice.
Further to the west around the Enderby Land Peninsula - patches of v. rotten sea-ice extend possibly up to 20 km off the continent margin.

Rippon Depot

Time 18.07
510 969.28

OAT = 0°C

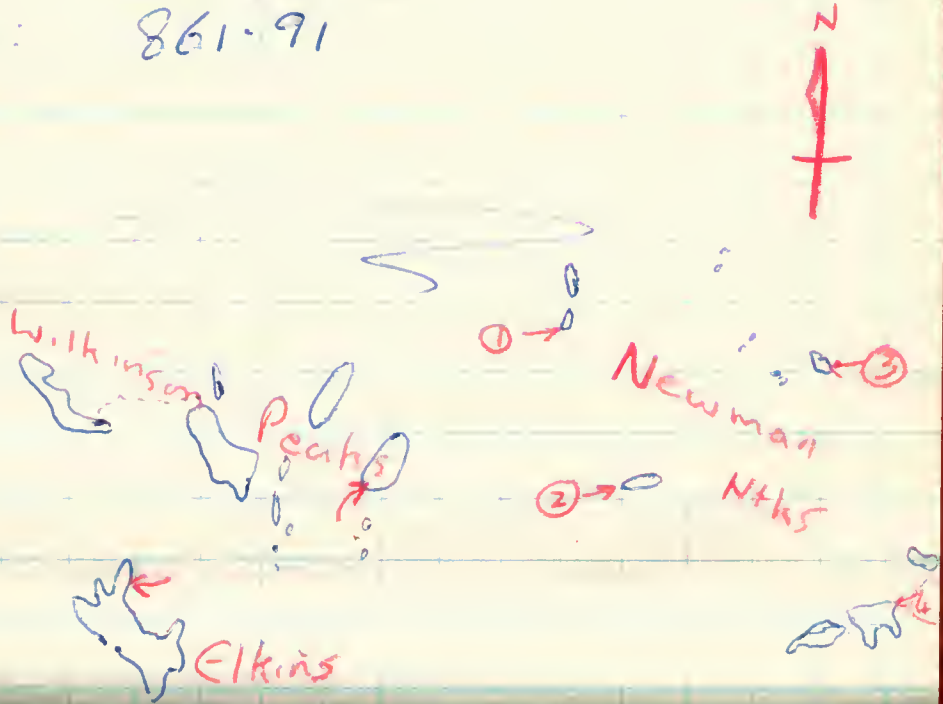
Time 18.09
985 969.64

Mt King

Time : 21.37
985 : 862.40

OAT = -8°C

Time : 21.38
510 : 861.91



21/1/77

Mt King

Time : 10.33
985 863.96

OAT: −8 °C

Time : 10.34
510 : 863.65

Simpson Pk / 5 / 1422

(NW of Mt Bargin)

see sketch

Time 12.56
985 964.77

OAT = +2 °C

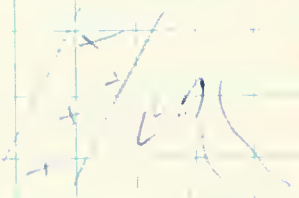
Time 12 57
510 : 964.53

1. Peg dykes (fine blades of biot, fine-grained grit, pink & white feld & qtz)
Up to about ½m wide
- crosscutting.

Heart

Fold
S 325 -51-274
D: 75N

Peg dyke trends 215-51 = 164
- drag folding at margin of dyke — no axial plane to the mesoscopic folds - must be earlier than dyke



Med-grid speckled grey & white bbl/dk - q-f grains - with lens layers (q+f)

- appears to be partly migmatised with grossly conformable q-f veins.

Thin dol dyke trending ~ 180°
about 10 cm wide

SPEC 4298

Med. grained black q-f gneiss

SPEC 4299

2. Nearby metam mafic ? dyke
- appears to crosscutting (doesn't persist along strike)

SPEC 4300

- following it NW and obviously dyke!
About 30 m wide trending 195°

3. Cut off by about 3 m of altered grey & brown mylonite

Myl.
S: 313 - 51 = 262
D: 73 N

Phyl: 34 → 105 - 51 = 054
(min along)

Then about 3m of mylonised gneiss

* SPEC 4401

Other side of fault a 2m wide pink layer. Discordinuous at one end

* SPEC 4402

Rock type - brown med-grained px-q-f gneiss.

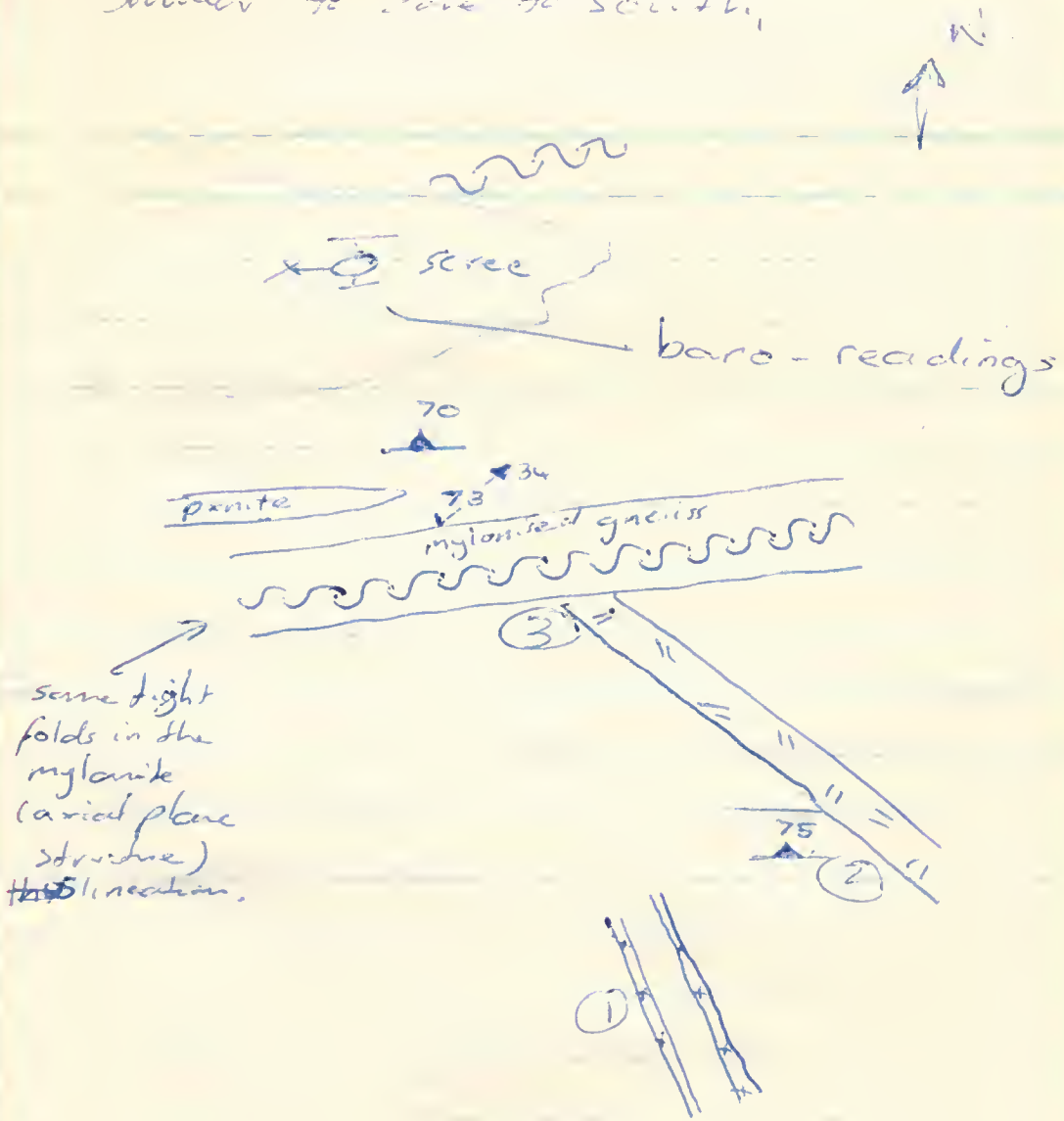
Fol S. 324-51:273 P. 70N

* SPEC 4403

- and some slightly discordant px-q-f (coarse-grained) mobilisate.

Nth side of shear - Dave found some biotite-q-f gneiss (sampled)

Nth of chopper scree on side of hill - mylonite zone trending



Branched lichen elongations.

Near chopper - boulders

layer of less gut-y fgneiss

M- Bergin

4 Time : 14.50
510 922.77
OMT = −1 °C

Time 14.52
985 923.10

Foliated & strongly lineated biot-px-q-f gneiss

Fol
S: 155-51 = 104
D 56 N
Plg Lin 40 → 115-51
(min elong) = 064

* SPEC 4404

Dark layer - more biot & px rich (b-px-q-f)

* SPEC 4405

Layer of med to coarse grnd speckled - biot-hbde-q-f gneiss

* SPEC 4406

6. Vein (concordant layer (light brown) of basalt) - q-f gneiss

* SPEC 4407

Appears to be two mafic dyke sets - one cutting other at acute angle. - see D Ellis

Certainly hblde-q-f gneiss at this locality - some coarse hblde blades in scree of hb-q-f gneiss.

Simpson Pk / 7 / 1285

Mt Maslen.

Time : 1534
510 : 968.51

OAT = +1°C

Time : 15.37
985 : 968.69.

Foh
S: 328 - 52 = 276
D: 55 N
Plg L: 26 → 118 - 52
= 066

Granite veins trending around
215 - 52 = 163
Mafic dyke trending ~ 208 - 52 = 156
- cut by granite vein (about
8 cm thick).
- some polished (ice) surface

Dyke ~ 15 m wide - altered

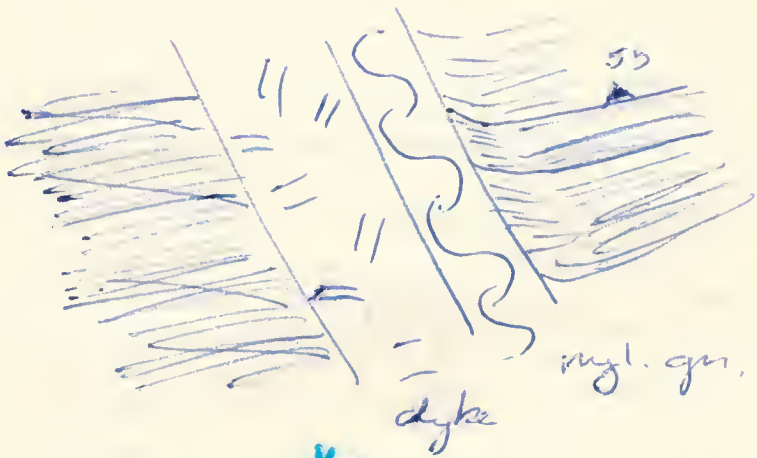
- sampled by D. Ellis.

Chlorite biotite in acid vein

Trend of mylonite — 331-52 = 279
(on polished surface)

Myl.
S: 190-52 = 138
P: 72 NE

About 3 cm of mylonited granite — margin of mafic dyke sheared as well.



sheared gn — SPEC 4408
(fine grain. black)

Granite
vein cut by fault
thus faulting later than

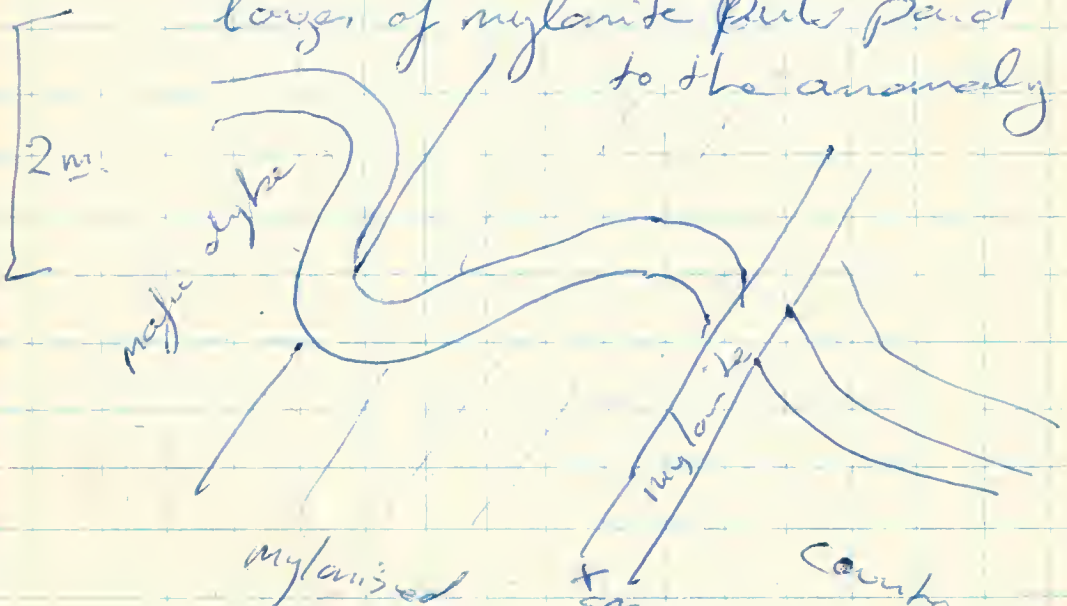
dolomite (magic dyke) intrusion

Tight folds in the mylonitic gneiss

Exception to the rule

— peg vein (one large gnt vein) cuts deformed zone!

— but no — about 50 cm layer of mylonite cuts peg. to the anomaly



— truncation!

pos. reactivn of old faults

e maybe mafic dyke along fault - dyke acted veins & then fault re-active.

Aplite patches (mixture)
cut by granite veins.

* SPEC 4407 - aplite

* 4410 - b-hblde-q-f gn
* 4411 - hbl-plag-q-gn
* 4412 - hbl-q-f gn
* 4413 - px-q-f gn.

SW side of fault
- structure about same.

S: 318-52=266
D: 65 N
Plg lin: 30 → 113-52
(hblde along-) =061

Country rock - med-grnd hbl-q-f gneiss with thin layers of med-coarse hornblende rich layers (SPEC 4411)
& (layers of px q-f gn (4413)
& b-q-f gn.

appears to be some mineralised
type of fracture - thermal

Structural similarities
with Fyfe Hill.
Acid Dykes cut mafic dykes
— faulted.

Locally bleaching of
fabric either side of pegm gr
veins

Nth side of Mt Maslen - some
lens layers. Most of outcrop
however weathered brown.

Mt Cunnie

2. Brown weathered mth-dipping rocks. Crosscutting mafic dykes.

Time : 17.34
SIC : 900 87 OAT = -1°C

Time : 17.36
985 : 901.26

Well foliated Fols
b-hbde-q-f gneiss S: 318_32 = 266
D. 60N

*SPEC 4414

Also thin (~20 cm scale commonly) layers of biot-hbde schist

*SPEC 4415

Also px-q-f gneiss

*SPEC 4416.

Many more volcanic layers of basic ~~basic~~ composition

SPEC 4417

Mafic clasts sampled by Dave

Appear to be pebbles of hyp-q-f mobilisate - fairly weathered outcrop.
Not present locally.

SPEC 4418.
- poorly conformable to folds but does appear to be tectonically concordant - not hyp but gnt-biot-q-f (gnt + biot alt from hyp???)

Mt Merrick

3. Time : 18.26
510 : 919.16

OAT = -2°C

Time 18.27
985 · 919.64

In scour

Marnie
lens proof
grain

Feb
5. 318 - 52 = 266
D. 59N

* SPEC 4419
- containing minor thin med. grain
pyrite stringers

* SPEC 4420
— malachite staining on fracture
of the pyrite.

Abant 30 m wide conformable

layer of med-gd p+ -pkg granulite.

patches of metabasal p+ -q -f
(med-coarse grain)

* SPEC 6621 - p+ -pkg granulite.

Mafic dyke truncates layering
(Ellis for spec)
— about 25 m thick.

sparse lens.

dyke

M+ King

Time : 21.05
510 : 864.38

OAT = -8°C

Time 21.03
985 864.74

M+ King 30/1/77

Time : 14.08
985 : 865.53

OAT = -8°C

Time : 14.09
510 : 865.12

M+ Risser Lorren / 15/0707
M+ Hardy

Time 15.04
510 995.85 OAT = 0°C

Time : 15.05

465 . 996 . 15

Px-q-f grain & gmt-q-f grain

Cut by mafic dykes - fresh
Margin very foliated

* SPEC 4422

Core more mafic but still at least
50% plag.

* SPEC 4423

About 30 m wide trending 276 - 52
= 224
- steep dip.

Foh.
S 177 - 52 : 125
D: 225 W

Gmt-q-f grain
(also layers
of px-gmt-q-f gn)

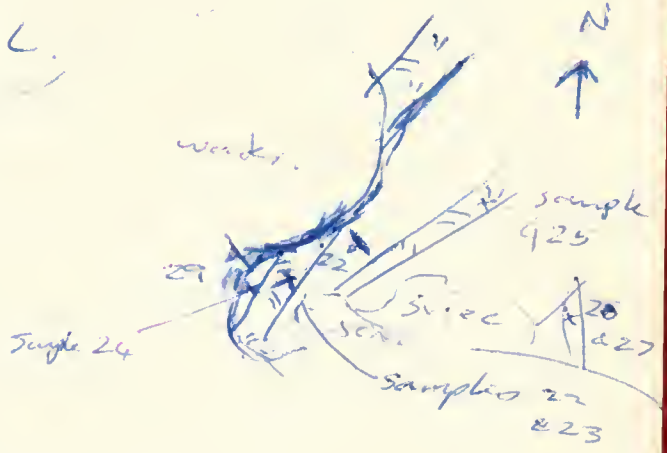
* SPEC 4424

Some conformable blue purple
quartz veins
Some med-coarse grnd
hypp-gmt-q-f mylonitic

- forms patches where foliation is destroyed.

Fol
S 162 - 52 = 110
D 29 SW

R-L.



Close Jointing
S: 263 - 52 = 211
D. vert to steep Sth. E

Black fg-gnd dolerite
Trend S. 330
D. Vert

* SPEC 4425
Country rock brittly deformed on margin
About 2 m wide.

Area covered yesterday. Under
this dyke.

Green rocks (ad Oldfield)

Layer to south of boundary
beach of phlog - sapph (pale blue-
green) - qtz-feld. Also layers with
pale brown px.
Other side still - massive
unit of px-plag granulite with
interlayered 1m wide
magnetite - quartz agrein

Sapphirine layer

* - SPEC 4426 - phlog-sapph-q-f
* 4427 - px-sapph-q-f

Mt King

Time 18.15
510 864.95

OAT =
-7°C

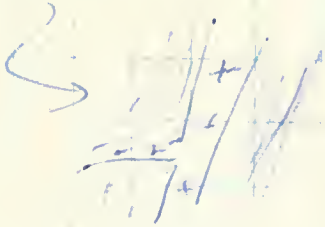
Time. 18.14
985 865.38

Gravigansa 31/1/77

Hansen Mts / 325 / 7104

See N+tk (Small outcrop N7m) (19/12/59)

Steeply dipping light brown marine rocks interlayered with light coloured rocks — some crosscutting veins



Fol.

S: 186-60 = 126

D: 80 SW

Phyl 66 → 222 — 60

(biot chlor) = 162

Consists of layers & lenses of brown fine to med-grnd biot-qnt-feld-qnt$_2$ gneiss

★ SPEC 4428

within a partly mobilised med-coarse grnd b-qnt-q-f gneiss.

★ SPEC 4429

Strongly conformable lens layers (up to ~ 1" in thick) of b-g-f granite

* SPEC 4630.

- some patches truncate fol=.

Also layers (lens) containing gnt, appear foliated & locally cut fol=. - Earlier than the b-g-f granite?

Lindsay N.H. - from air - light ~~green~~ brown coloured with crosscutting lens veins.

Fram Peak

Steeply dipping light & dark brown layers. Appears to be many no. of crenulating fold vers. May be tight folds?

Nthn end of hills

Foliated hyp-q-f containing xenoliths and layers of px-plag granulite & px-q-plag and xenoliths of gnt-biot-px rock.

Intrusive hyp. q-f rock foliated

* SPEC 4431 - hyp-q-f granite
* 32 - hyp-q-f layer
* 33 - hyp. plag xen
* 34 - gnt-biot px xen.

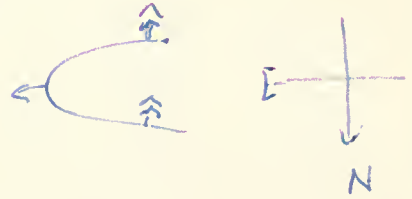
Difficult to get fold trend

on the peninsula [illegible]
[illegible] many [illegible]

Solitary Nth

Hillwell Hills

macroscopic
overturned
fold



Layered light + 2 dark brown rocks. Bifurcation of one dark layer.

Layers of
px-plag granulite
& light orange Phy (lens) px-q f grain.

Fol.
S: 344 – 59 = 285
D: 72 SW

Lin. 53 → 215 – 59 (min change) = 156

Glacial striations trend 281 – 59 : 222

Lens rock is foliated & lineated

* SREC 4435 – px-q-f gn

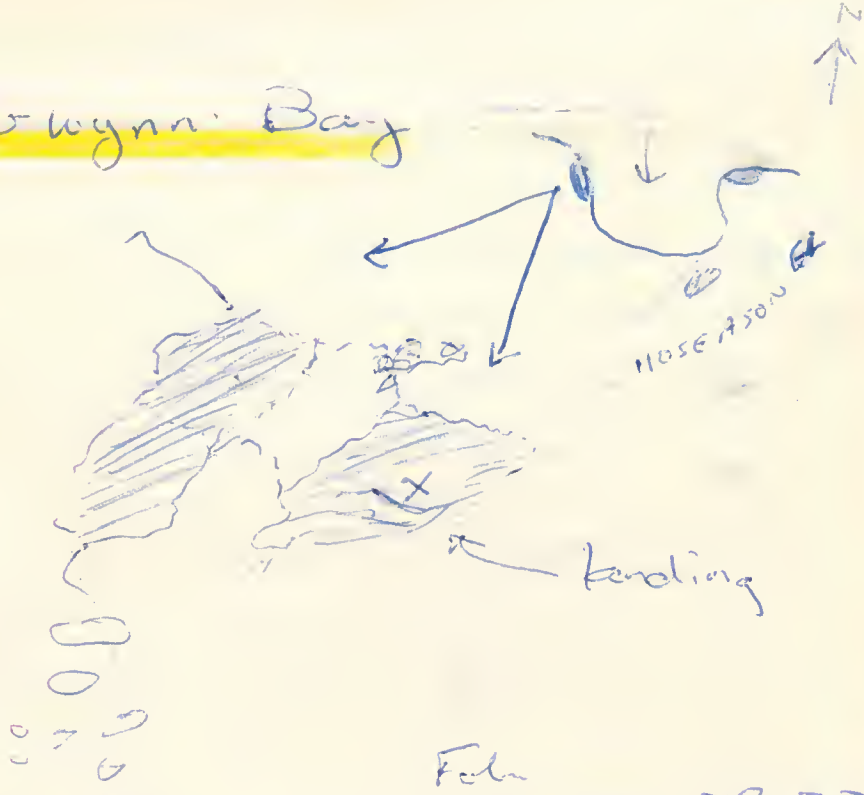
* 4436 – px-plag granul. te

Yellow-green (bright) lichen.

Peg vein (~3 cm wide) of mag-q-f.

Layers vary from several cm to about 3 m.
Bifurcation & lensing out of mafic rock. Parts of the felsic rock are coarse-grained.

Gwynn Bay



Felsic
S: 295 - 58 = 237
D: 40 5

Layered pre-plag
gneiss
& light
orange pink
pre-cf grain (leuc)

Plag L: 34 → 185 - 58
(microplag) = 127

Leuc layers up to 10's m thick
Mafic layers bifurcate
Some melanic = of leuc rocks
(coarsening of grain size)
Locally honeycomb weathering

Partial melting of the lower layers → hypo-(grnt)-q-f - some major layers disorientated - appear to have moved within a semi-solid granitic matrix.

Felsic/Layers
S: 175 - 58 = 117
D: 44 SW

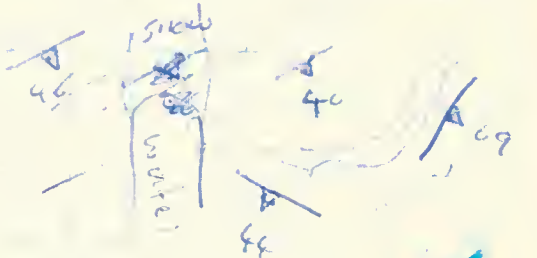
22 → 200 - 58 = 142

Felsic/Layers
S: 268 - 58 = 210
D: 69 SE

Phyllo 65 → 168 - 58 = 110

Felsic/Layering
S: 290 - 58 = 232
D: 465

Phyllo: 50 → 190 - 58 = 132



Leuc layer (px-q-f) SPEC 4437 *
4438 *

Major layers (b-px-plag) = hbde SPEC 4439 *
4440 *

Cowgill Bay - Ice - Shetland

Leckie Range

Robert Gl

Rayner Pk

4401 ⇒ 4500

31/1/77

Sea-ice across Edward VIII Gulf as far east as Haystein Is. From there further to east - v. rotten. & broken up sea-ice ie fairly clear up to continent.

Partial melting of the lower layers →
hyp. (gnt)-g-f
- some major layers disorientated
- appear to have moved within a semi-

Foln/Layering
S. 175 - 58 = 117
D. 44 SW

22 → 200 - 58
= 142

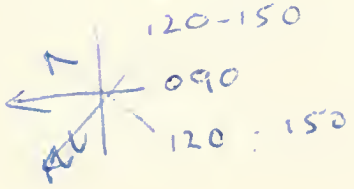
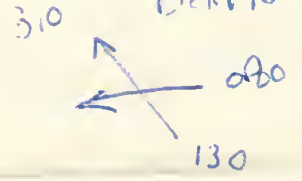
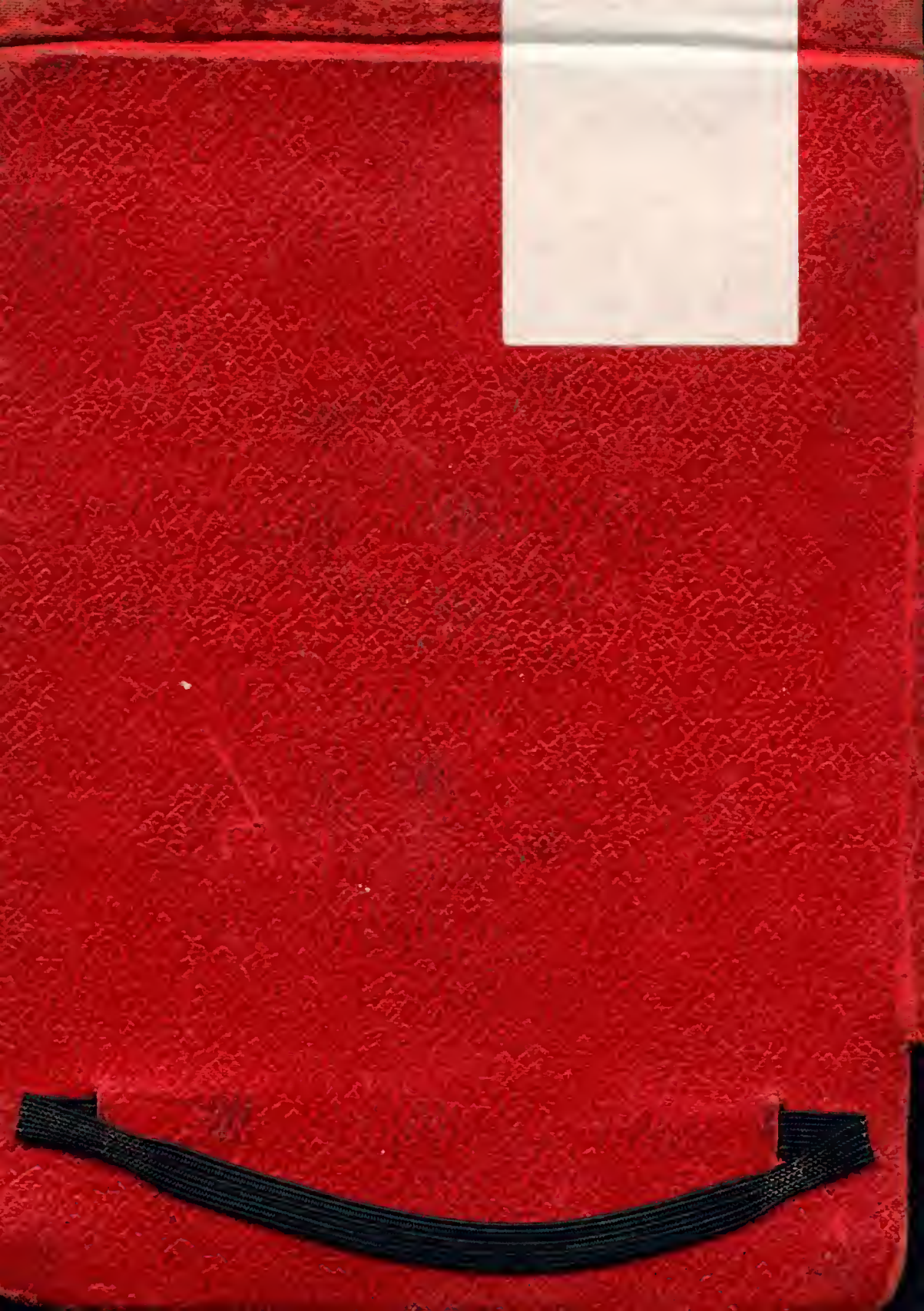
Foln/Layering
S. 268 - 58 = 210
D: 69 SE

Hyb. 65 → 168 - 58 = 110

Foln/Layering
S: 290 - 58 = 232
D. 65

Wind direc =
- from drift direc

Mt King



Bckl Ntks.